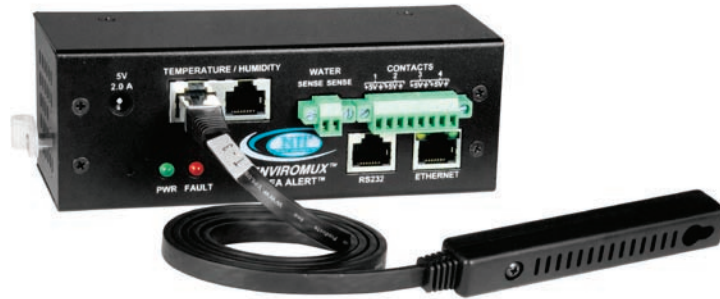


# MINI SERVER ENVIRONMENT MONITORING SYSTEM

## SNMP and Web monitoring/management of server room environments



ENVIROMUX-MINI with ENVIROMUX-T-3 Temperature Sensor

### Monitors Threats:

- **Temperature**
- **Humidity**
- **Water Leakage**
- **Intrusion**

## Features & Applications

The ENVIROMUX® Mini Server Environment Monitoring System monitors critical environmental conditions (such as temperature, humidity, and water leakage) that could destroy network components in your server room. When a sensor goes out of range of a configurable threshold, the system will notify you via email, SNMP traps, web-page alerts, a visual indicator (red LED), and SMS messages (via external GSM or 3G modem).

- Monitor and manage server room environmental conditions over IP.
- Sensors supported:
  - 2 temperature/humidity sensors
  - 1 liquid detection sensor
  - 4 digital inputs sensitive to contact closure
- Alerts are posted in message log, which is accessible through Web user interface.
  - The log can be downloaded as a tab-delimited plain text file.
- Flexible Zero-RU mounting.
  - Mounting tabs included.
  - Optional DIN mounting available.
- Integrates with various Open Source monitoring packages — Nagios and MRTG.
- Optional industrial mini server environment monitoring system for high temperature environments. This industrial system has the ability to operate and monitor in harsh environments at high temperatures up to 167°F (75°C).
  - Add "-IND" to the end of the part number to specify this option.
- Use in data centers, co-lo sites, web hosting facilities, telecom switching sites, POP sites, server closets, or any unmanned area that needs to be monitored.

## Specifications

### Temperature/Humidity Inputs

- Two female RJ45 connectors for connecting temperature sensors, humidity sensors and/or combined temperature/humidity sensors.

### Water Detection Cable Input

- One screw terminal pair for connecting liquid detection sensor.
  - Additional water detection sensors can be connected to the dry contact closures.
- Output voltage: +5VDC.
- Current limited to 10mA
- Maximum resistance to close contact: 300K Ohm.

### Dry Contact Closures

- Four screw terminal pairs for connecting dry contact devices.
- Potential-free.
- Output voltage: +5VDC
- Current limited to 10mA
- Maximum resistance to close contact: 300K Ohm

### RS232 Port

- One female RJ45 connector for controlling a GSM modem.
- Supports 3-wire interface (Tx, Rx and GND)
- Used for flash upgrades (includes DB9F-RJ45F adapter).
- GSM modem supported: Teltonika WirelessCom/G10.
- 3G modem supported: NetComm N3GS003

### MTBF

- 80,327 hrs.

### Ethernet Port

- One female RJ45 connector with LEDs.
- 10 BaseT Ethernet interface.

### Protocols

- HTTP, SNMP V1, SMTP, TCP/IP, UDP, DHCP
- Compatible with any SNMP management software.
- Operates and configures via HTTP web page.
  - Supports Microsoft Internet Explorer 6.0 and higher.
- An IP address can be assigned to the ENVIROMUX-MINI automatically by a DHCP server.
- Generates SNMP traps, email alerts, and syslog messages.
- Email alerts can be sent to three addresses.
- Up to four users can access the Web interface simultaneously.

### Dimensions

- WxDxH (in.): 5.6x2x2

### Regulatory Approvals

- ENVIROMUX-MINI: CE, UL, cUL, RoHS
- ENVIROMUX-MINI-IND: CE, UL, cUL, RoHS

### Power

- 110 or 220 VAC at 50 or 60 Hz via AC adapter.
- Power consumption: 5W
- Use the PWR-48V-5V1A DC-DC power converter to install the ENVIROMUX-MINI in a Telecom environment.



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## Control Methods

- Configuration can be done over the Internet/LAN via Web page.

### Front Panel Interface

- LEDs indicate the following:
  - “Fault” (red) lights up if a sensor goes out of range of a configurable threshold.
  - “Power” (green) lights up when the device is powered/all clear.

### Web Interface

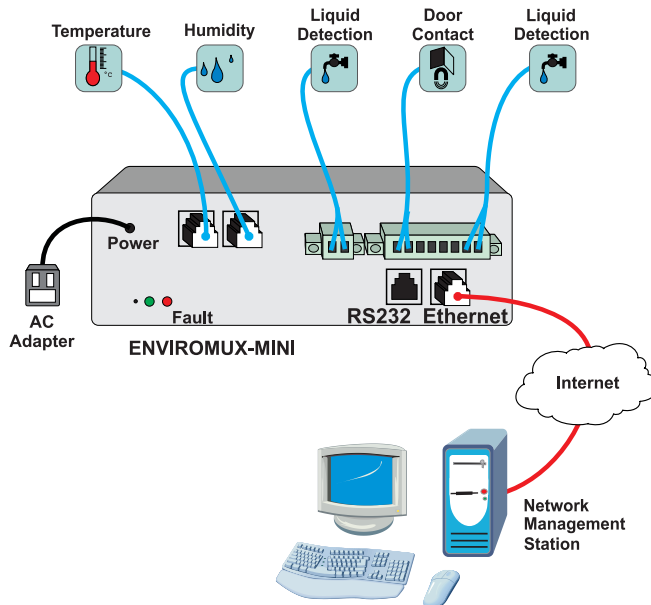
- Configure sensor’s thresholds, alarm methods, formats of alerts, and system data log.
- View/edit sensors’ current values, thresholds and alert statuses.
  - All sensors connected to the ENVIROMUX-MINI can be viewed on one summary page.
  - User configurable settings allow sensors to return to normal status when alert condition clears, without manually acknowledging/dismissing the alert.
- View/edit entries stored in the system data log.
- The log can be downloaded as a tab-delimited plain text file.
- Configure IP information (address, subnet mask, default gateway, DNS, etc.), user administrative settings, and data logging settings.
- Up to four users can access the web page at one time.

## DIN Rail Mounting Option



ENVIROMUX-MINI-D with optional DIN rail mounting for industrial applications

## Configuration and Cable Illustration



## Sensors & Accessories

### Temperature/Humidity Combination Sensor

- For use with ENVIROMUX-MINI.
- Applications from 32°F to 104°F (0°C and 40°C) and 20% to 80% relative humidity.
- High resistance to external influences on the cable due to digital output signal.
- Accurate to within  $\pm 1.35^\circ\text{F}$  ( $\pm 0.75^\circ\text{C}$ ) and  $\pm 5\%$  relative humidity.
- Re-calibration is not necessary after initial set-up.
- Available lengths: 3/7/10/25 feet.
- Includes mounting hardware.
- Regulatory approvals: CE, RoHS



ENVIROMUX-TRH-xx

### Temperature Sensor

- For use with ENVIROMUX-MINI.
- Applications from 32°F to 104°F (0°C to 40°C).
- High resistance to external influences on the cable due to digital output signal.
- Accurate to within  $\pm 1.35^\circ\text{F}$  ( $\pm 0.75^\circ\text{C}$ ).
- Re-calibration is not necessary after initial set-up.
- Available lengths: 3/7/10/25 feet.
- Includes mounting hardware.
- Regulatory approvals: CE, RoHS



ENVIROMUX-T-xx



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# MINI SERVER ENVIRONMENT MONITORING SYSTEM

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## Sensors & Accessories (Continued)

### Liquid Detection Sensor



ENVIROMUX-LDx-y

- For warning of flooding.
- 100% waterproof electronics.
- Detects any conductive liquid.
- Puddle: 0.6" diameter.
- Detects liquid depth >0.1".
- Available water sensor cable (x) lengths: 1/10/50/100/200/400/600/800/1000 feet.
- Available 2-wire cable (y) lengths: 5/10/20/50/100 feet.
- Regulatory approvals: CE, RoHS

### Humidity Sensor



ENVIROMUX-RH-xx

- For use with ENVIROMUX-MINI.
- Applications from 20% to 80% relative humidity at temperatures between 0°C and 40°C.
- High resistance to external influences on the cable due to digital output signal.
- Accurate to within ±5% relative humidity.
- Re-calibration is not necessary after initial set-up.
- Available lengths: 3/7/10/25 feet.
- Includes mounting hardware.
- Regulatory approvals: CE, RoHS

### Smoke Detection Sensor



ENVIROMUX-SDS-PA

- For warning of smoke.
- Built-in 135° F (57° C) thermal heat sensor.
- Includes mounting hardware.
- Photoelectric smoke detector.
- Screw terminal.
- Includes 9V/1A power supply.
- Regulatory approvals: UL

### Sensor Cables



ENVIROMUX-2W-xx

- 2-wire sensor cable.
- Use to connect dry contact sensors to the ENVIROMUX-MINI.
- Available lengths (ft): 3/6/10/25/50/100
- Regulatory approvals: RoHS, UL

### Door Contact Sensor



ENVIROMUX-M-DCS

- Monitors access with a magnetic bridge sensor, which responds to any magnetic material (no special inserts necessary).
- Can also be used for monitoring side wall and covers.
- Includes mounting hardware.
- For normally closed circuit connection.
- 2-wire interface; screw terminal
- Wide actuating gap, about 1".
- Dimensions WxDxH (in): 0.5x0.5x2 (Switch), 0.5x0.5x2 (Magnet).
- Regulatory approvals: RoHS

### GSM Modem



ENVIROMUX-GSM-P

- Sends SMS text messages to a pager or cell phone when a sensor goes out of range of a configurable threshold.
- GSM modem with antenna built into system.
- Convenient push-push SIM card holder
  - Mini SIM card supporting SMS messaging required (not included)
- Protocols: AT commands
- Supports one configurable authorized phone number for sending SMS text messages.
- Auto PIN feature, no need to enter SIM card PIN after restart
- Quad band: 850/900/1800/1900 MHz
- SMS: Text mode
- Power: 110 or 220 VAC at 50 or 60 Hz via AC adapter.
- Regulatory Approvals: CE

### 3G Serial Modem



ENVIROMUX-3G

- Sends SMS text messages to a cell phone when a sensor goes out of range of a configurable threshold.
- Removable antenna.
- Supports third generation (3G) digital cellular standards.
- Convenient push button SIM card holder.
  - Mini SIM card supporting 3G SMS messaging required (not included)
- Protocols: AT commands
- Supports one configurable authorized phone number for sending SMS text messages.
- Tri-band UMTS (HSDPA): 850/1900/2100 MHz
- Quad band EDGE/GPRS/GSM: 850/900/1800/1900 MHz
- Includes 12V/1A power supply.



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## Sensors & Accessories (Continued)

### Temperature Sensor, Extended Range



**ENVIROMUX-T-IND-xx**

- For use with ENVIROMUX-MINI-IND.
- Applications from 32°F to 167°F (0°C and 75°C).
- High resistance to external influences on the cable due to digital output signal.
- Accurate to within  $\pm 2.25^\circ\text{F}$  ( $\pm 1.25^\circ\text{C}$ ).
- Re-calibration is not necessary after initial set-up.
- Available lengths: 3/7/10/25 feet.
- Includes mounting hardware.
- Regulatory approvals: CE, RoHS

### Air Flow Sensor



**ENVIROMUX-AFM-xx**

- Reliable mechanical solution for monitoring air flow.
- Reacts to any condition causing insufficient flow of air such as malfunctioning cooling fan, increased friction, or physical blockage.
- Can be used for direct monitoring of a cooling fan.
- Dimensions WxDxH (in): 1.34x.7x.3
- Switch contact is closed when air flow is  $>8.2$  ft/s.
- Connection: 2x single strand AWG26
- Available Lengths: 1.5/10/50/100/200/400/600/800/1000 feet
- Regulatory approvals: CE, RoHS

### Power Converter



**PWR-48V-5V1A**

- Use the PWR-48V-5V1A power converter to install the ENVIROMUX-MINI in a Telecom environment.
- Accepts 36~72VDC (48 VDC nominal).
- Accepts positive or negative polarity.
- Outputs +5VDC and can handle 1A load.
- 3-pole detachable screw terminal for connecting 48V input.
- 2.1x5.5mm male DC power jack.
- Dimensions WxDxH (in): 1.8x2.1x1
- Regulatory approvals: RoHS

### Emergency / Panic Button



**ENVIROMUX-EBS**

- Sends activation signal when button is pressed.
- For normally closed or normally open circuit connections.
- 2-wire interface.
- Screw terminal.
- Dimensions WxDxH (in): 0.4x0.9x3
- Regulatory approvals: RoHS

### Tamper Switch



**ENVIROMUX-TDS**

- Sends activation signal when tamper switch is released.
- Normally closed contact when depressed.
- Dimensions (in): inner diameter: 0.8, outer diameter: 0.9, height: 2.9
- 2-wire interface.

### AC Voltage Detector



**ENVIROMUX-ACVD-515M**  
**ENVIROMUX-ACVD-515**  
**ENVIROMUX-ACVD-C14M**  
**ENVIROMUX-ACVD-C14**

- Measurement range: detects voltage from 50 to 250 VAC.
- Measurement indication: Alarm or Normal.
- Sensor type: open/closed contact switch.
- Attached 3-foot power cord.
  - ENVIROMUX-ACVD-515M: Standard US 120V 15A NEMA 5-15 plug (When using with ENVIROMUX-MINI that was purchased before 11/1/2008, use part number ENVIROMUX-ACVD-515)
  - ENVIROMUX-ACVD-C14M: Universal 250V IEC C14 socket (When using with ENVIROMUX-MINI that was purchased before 11/1/2008, use part number ENVIROMUX-ACVD-C14)
- Regulatory approvals: CE, RoHS.

### DC Voltage Detector



**ENVIROMUX-DCVD-24V-M**

- Measurement range: detects voltage from 24-36 VDC.
  - Contacts remain closed between 26-36 VDC
  - Contacts open when monitored voltage drops below 24 VDC
- Measurement indication: Alarm or Normal.
- Sensor type: open/closed contact switch.
- Includes 6-foot 2-wire cable to connect to the ENVIROMUX-MINI.
- Attached 3-foot power cord with tinned leads on 3 wires.
- For use with ENVIROMUX-MINI purchased on or after 11/1/2007.
- Regulatory approvals: RoHS



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## Sensors & Accessories (Continued)

### Power Over Ethernet Adapter



ENVIROMUX-POE

- Enables ENVIROMUX-MINI to be powered over Ethernet connection.
- Eliminate the need to place ethernet-enabled devices near power outlets, giving more freedom of placement.
- Supply Power and Data up to 300 feet using standard Ethernet cabling.
- Outputs Power on an attached DC power cable, and Data on an attached Ethernet cable.
- Ethernet Pin Usage:
  - Data: 1,2,3,6
  - Power: 4,5,7,8
- No tools or software necessary for installation.
- Overload and short circuit protection.
- Standards: 802.3af
- Dimensions WxDxH (in): 3x3.25x1.5
- Maximum power output: 5VDC @ 2.4A.
- Regulatory approvals: RoHS, FCC, CE

